In the Claims

Claims are amended as follows, with re-numbering s done by the Examiner:

1.   (original) A method of setting up a communications session on a label switched path encapsulated within an existing label switched path between a first node and a second node, the method comprising: sending a path set up message from the first node to the second node, wherein said path set up message incorporates an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel .identifier and extended tunnel identifier together specifying the label switched path for said communications session.

2.   (original) A method as claimed in claim 1, wherein the path message further contains a session attribute object instructing the second node to add a session filter into an existing reservation, thereby explicitly sharing the reservation.

3.   (original) A method as claimed in claim 2, wherein a reservation for the encapsulated session indicated by the tunnel identifier is established at each traversed node along the path for said communications session.

4.   (original) A method as claimed in claim 2, wherein a path reservation is made only at either end of the tunnel within which the path for the communications session has been routed.

5.   (original) A method as claimed in claim 4, wherein recursive label stacks are established on an as-needed basis between said start and destination nodes.

6.   (original) A method as claimed in claim 1, and further comprising setting up said label switched path within one or more further existing label switched paths accessed via said second node.

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7.   (original) A method as claimed in claim 1, and performed under the control of software in machine readable form on a storage medium.

8.   (original) A method of reserving a label switched path nested within an existing label switched path so as to establish a communications session between a first node and a second node in a multi-protocol label switched communications network, the method comprising: sending a path set up message from the first node to the second node via one or more intermediate nodes, said path set up message incorporating an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel identifier and extended tunnel identifier together specifying a label switched path for said communications session.

9.   (original) A method of setting up a communications session on a label switched path encapsulated within an existing label switched path between a first node and a second node via one or more intermediate nodes, said first and second nodes being disposed at respective ends of the existing label switched path, the method comprising:

at said first node, defining a new path state and sending a path set up message to the second node via said one or more intermediate nodes, said path set up message incorporating an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel identifier and extended tunnel identifier together specifying the label switched path for said communications session;

at each intermediate node, defining a new path state and forwarding the path message with said explicit route object;

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at said second node, establishing a reservation state, and returning said reservation state to the first node via said one or more intermediate nodes;

at each said intermediate node, defining a new reservation state and forwarding said label; and,

at said first node, installing the reservation state with a label stack consisting of label for the existing label switched path as the top label and the newly returned label as the bottom label.

10.   (currently amended) A method of setting up a communications session on a label switched path encapsulated within an existing label switched path between a first node and a second node via one or more intermediate nodes, said first and second nodes being disposed at respective ends of the existing label switched path, the method comprising:

at said first node, defining a new path state and sending a path set up message to the second node via said one or more intermediate nodes, said path set up message incorporating an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel identifier and extended tunnel identifier together specifying the label switched path for said communications session;

tunneling the path set up message via the existing label switched path to the second node;

at said second node, establishing a reservation state, and ~~returing~~ returning the reservation state to the first node with said first node identified as the previous hop (phop) router so as to tunnel the reservation back to the first node; and,

at said first node, installing the reservation state with a label stack consisting of label for the existing label switched path as the top label and the newly returned label as the bottom label.

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[[10]]11.   (currently amended) A path setup message for reserving a label switched path nested within an existing label switched path so as to establish a communications session between a first node and a second node in a multi-protocol label switched communications network, said path set up message incorporating an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel identifier and extended tunnel identifier together specifying a label switched path for said communications session.

[[11]]12.   (currently amended) A label switched communications network in which communications sessions are established on respective label switched paths each encapsulated within an existing label switched path between a first node and a second node, the network comprising: message sending means disposed at the start node for sending a path set up message from the start node to the destination node, wherein said path set up message incorporates an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel identifier and extended tunnel identifier together specifying the label switched path for said communications session.

[[12]]13.   (currently amended) A network as claimed in claim [[11]]12, wherein the path message further contains a session attribute object instructing the second node to add a session filter into an existing reservation, thereby explicitly sharing the reservation.

[[13]]14.   (currently amended) A network as claimed in claim [[12]]13, wherein a reservation for the encapsulated session indicated by the tunnel identifier is established at each traversed node along the path for said communications session.

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[[14]]15.   (currently amended) A network as claimed in claim [[12]]13, wherein a path reservation is made only at either end of the existing label switched path within which the path for the communications session has been routed.

[[15]]16.   (currently amended) A network as claimed in claim [[14]]15, wherein recursive label stacks are established on an as-needed basis between said first and second nodes.

[[16]]17.   (currently amended) A network node for use in a multi-protocol label switched communications network in which communications sessions are established on respective label switched paths each encapsulated within an existing label switched path between said node and a further node, the network node comprising: message sending means for sending a path set up message to the further node, wherein said path set up message incorporates an explicit route object containing a tunnel identifier for said existing label switched path and an extended tunnel identifier, said tunnel identifier and extended tunnel identifier together specifying the label switched path for said communications session.

[17]]18.   (currently amended) A method of setting up a communications session via a tunnel between first and second nodes, the method comprising: sending a path set up message from the first node to the second node, wherein said path set up message incorporates an explicit route object containing a session object comprising a tunnel end point address uniquely specifying a label switched path for said communications session.

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